Geometry

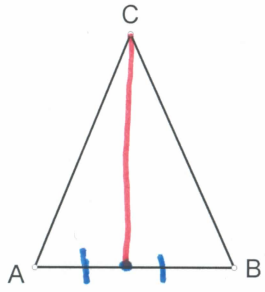
Name ANSWER KEY

Per. _____ Date _____

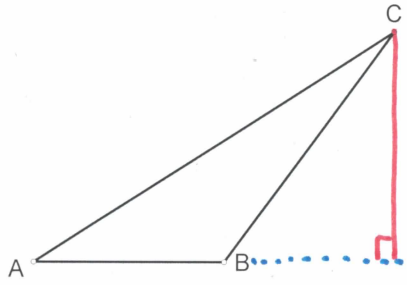
Chapter 5 Review Packet

Draw in the following for the given triangle and mark what segments/angles would be congruent or angles that would be right angles. ***You may have to put in extra points (i.e. midpoints). Targets 5A to 5E***

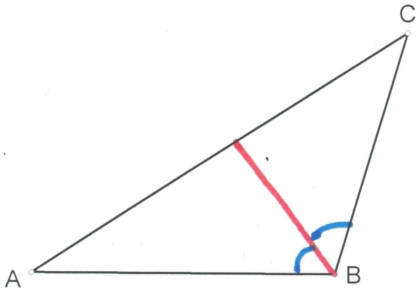
1. Median from C to AB.



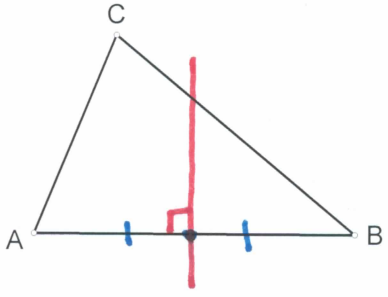
2. Altitude from C to AB.



3. Angle Bisector from B to AC.

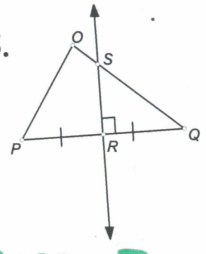


4. Perpendicular Bisector of AB.



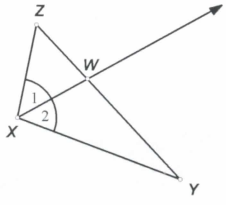
For numbers 5-8, determine whether you are given an altitude, median, angle bisector, or perpendicular bisector and then name the parts of the triangles that are either congruent or right angles. Targets 5A – 5E.

5.



PERP. BISECTOR

$\overline{PR} \cong \overline{RQ}$ $\angle SRQ$ IS A RIGHT $\angle$

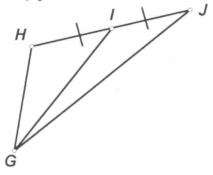


ANGLE BISECTOR

$\angle 1 \cong \angle 2$

$\angle ZXW \cong \angle WXY$

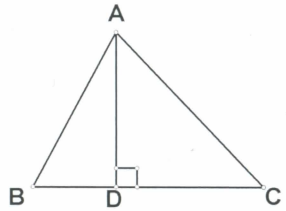
6. **7.**



MEDIAN

$\overline{HI} \cong \overline{IJ}$

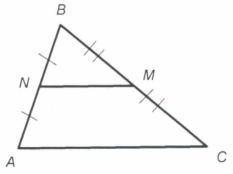
8.



8. ALTITUDE

$\angle ADC$ IS A RIGHT $\angle$

9.

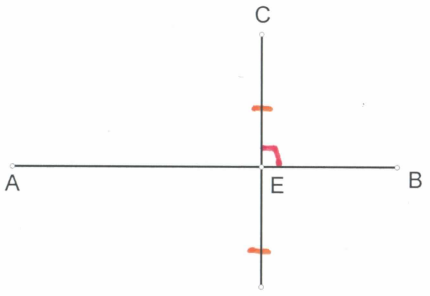


9. MIDSEGMENT

$\overline{BN} \cong \overline{NA}$, $\overline{BM} \cong \overline{MC}$

State a conclusion for the given picture.

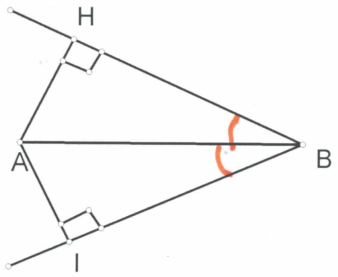
10. $\overline{AB}$ is the perpendicular bisector of $\overline{CD}$.



ALL ∠s AT E ARE RIGHT ∠s

$\overline{CE} \cong \overline{ED}$ ALL POINTS ON $\overline{AB}$ ARE EQUIDISTANT FROM C AND D

11. $\overrightarrow{BA}$ is the angle bisector of $\angle HBI$



$\angle HBA \cong \angle ABI$

ALL POINTS ON $\overline{AB}$ ARE EQUIDISTANT FROM THE SIDES OF $\angle HBI$

12. $\overline{CD}$ is a median of ΔACB. Solve for x, AD, and AB.

x = 2

AD = 10

AB = 20

$7x - 4 = 5x$

$-5x \quad -5x$

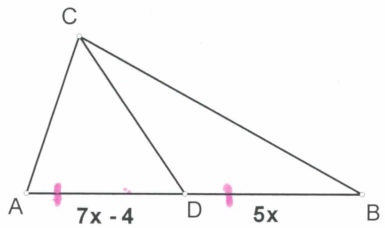
$2x - 4 = 0$

$+4 \quad +4$

$2x = 4$

$\frac{2x}{2} = \frac{4}{2}$

$x = 2$



$7(2) - 4 = AD$

$14 - 4 = AD$

$10 = AD$

$DB = 5(2)$

$= 10$

13. $\overline{CD}$ is an altitude of ΔACB. Solve for x and give the measure of AD and DB.

x = 29

AD = 37

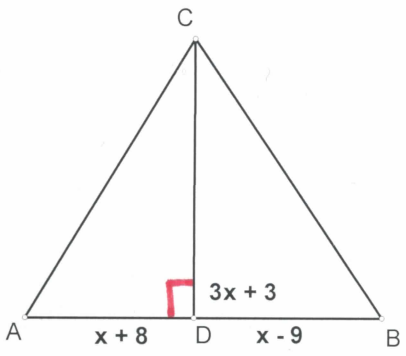
DB = 20

$3x + 3 = 90$

$-3 \quad -3$

$\frac{3x}{3} = \frac{87}{3}$

$x = 29$



$AD = x + 8$

$= 29 + 8$

$= 37$

$DB = x - 9$

$= 29 - 9$

$= 20$

14. $\overline{EF}$ is the perpendicular bisector of AD. Solve for x and the measure of $\angle C$.

$3x - 11 = x + 7$

$-x \quad -x$

$2x - 11 = 7$

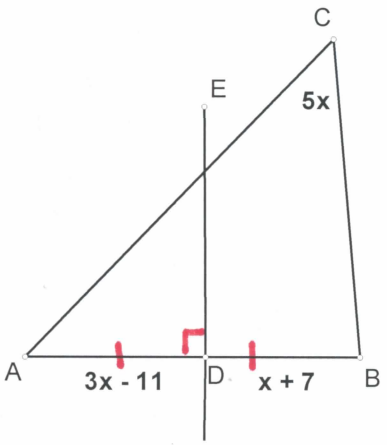
$+11 \quad +11$

$\frac{2x}{2} = \frac{18}{2}$

$x = 9$

x = 9

m∠ C = 45°



$\angle C = 5x$

$= 5(9)$

$= 45°$

15. $\overrightarrow{BD}$ is an angle bisector of $\angle$ CBA. Solve for x if $\angle CBD = 8x$ *and* $\angle ABD = 4x + 30$.

$4x + 30 = 8x$

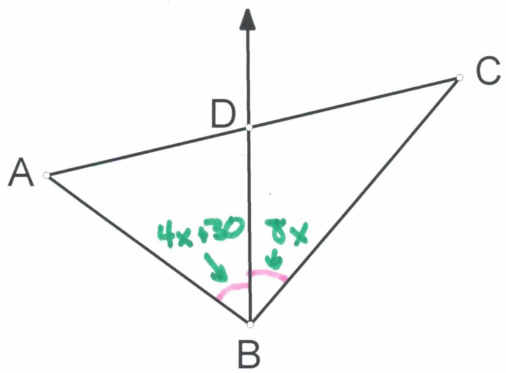
$-4x \quad -4x$

$\frac{30}{4} = \frac{4x}{4}$

$7.5 = x$

or $7\frac{1}{2}$

x = 7.5



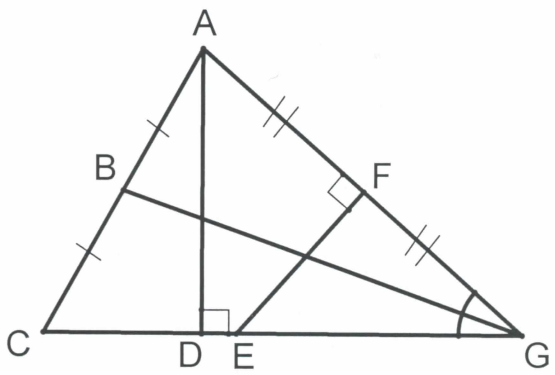
16. Using ΔACG at the right, give an example of the following:

Median $\overline{BG}$

Angle bisector $\overline{BG}$

Perpendicular bisector $\overline{FE}$

Altitude $\overline{AD}$



17 The point where all 3 ***perpendicular bisectors*** meet in a triangle is called the CIRCUMCENTER.

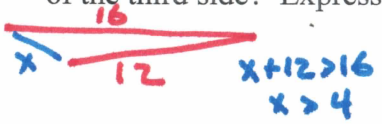
18. The point where all 3 ***angle bisectors*** meet in a triangle is called the INCENTER.

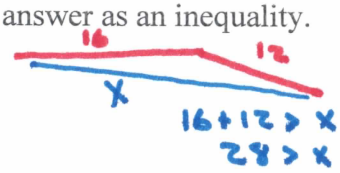
19. The point where all 3 ***medians*** meet in a triangle is called the CENTROID.

20. The point where all 3 ***altitudes*** meet in a triangle is called the ORTHOCENTER.

Target 5F

21. The measure of two sides of a triangle are 12, 16. What is the range of numbers that could be the measure of the third side? Express you answer as an inequality.





4 < x < 28

Determine if the following measurements can be the sides of a triangle. If not, explain why.

22. 3 cm, 4 cm, 6 cm

Yes or No

3+4 > 6

7 > 6

23. 2.7 in, 7.8 in, 9.3 in

Yes or No

2.7+7.8 > 9.3

10.5 > 9.3

24. 14 mm, 6 mm, 8 mm

Yes or No

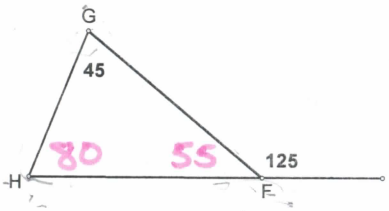
6+8 > 14

14 ≯ 14

Target 5G

Find the angles of the triangle. List the **angles** from smallest to largest. List the **sides** from smallest to largest.

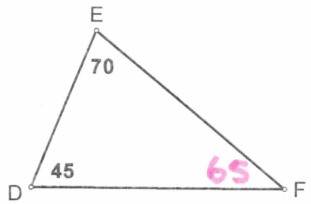
25.



Angles: ∠G, ∠GFH, ∠H

Sides: $\overline{HF}$, $\overline{GH}$, $\overline{GF}$

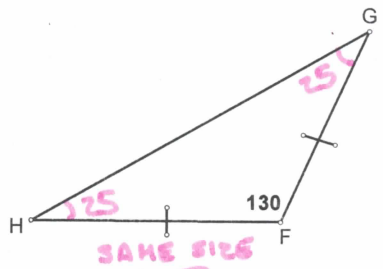
26.



Angles: ∠D, ∠F, ∠E

Sides: $\overline{EF}$, $\overline{ED}$, $\overline{DF}$

27.



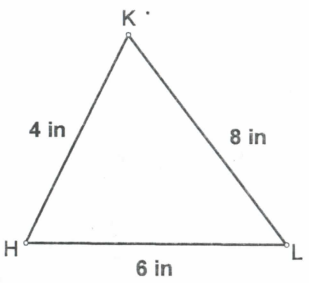
Angles: ∠G, ∠H, ∠F

Sides: $\overline{HF}$, $\overline{GF}$, $\overline{HG}$

SAME SIZE

List the **sides** from smallest to largest. Then list the **angles** from smallest to largest.

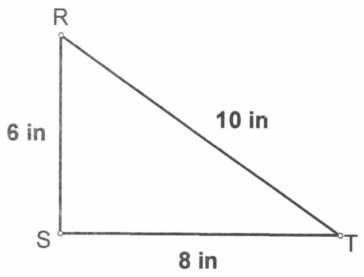
28.



Sides: $\overline{KH}$, $\overline{HL}$, $\overline{KL}$

Angles: ∠L, ∠K, ∠H

29.



Sides: $\overline{RS}$, $\overline{ST}$, $\overline{RT}$

Angles: ∠T, ∠R, ∠S